

## **Abstract**

The invention provides a method for determining haplotype in a template DNA sequence having a first and a second polymorphic marker comprising combining in a single tube a template DNA sequence, forward primers that are allele-specific for the first polymorphic marker, reverse primers that are allele-specific for a second polymorphic marker, and a Stoffel fragment DNA polymerase; conducting polymerase chain reaction (PCR) amplifications to produce an amplification product; and analyzing the amplification product to identify which pair of said forward and reverse primers generated said amplification product; wherein the haplotype is determined by the identification of the forward and reverse primer pair.